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ABSTRACT

Many of the Zapotecan (Mexico) languages have a unique way of signaling co-reference between the subject and the possessor of the object: the subject is null. Analysis of such a construction is problematic to current theories of anaphoric construction. In this analysis, the construction is described and the theoretical problem is underlined by opposing any obvious alternative analyses. An analysis is proposed in which it is the tail rather than the head of the chain of coreferent elements that is identified, suggesting that this is another place where parameterization is needed. Contains 23 references. (Author/MSE)

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A Backwards Binding Construction in Zapotec*

Cheryl A. Black

Many of the Zapotecan languages have a unique way of signalling coreference between the subject and the possessor of the object: the subject is null. Such a construction is upsidedown or backwards from commonly described anaphora constructions and its analysis is therefore problematic to current theories. This paper describes the construction and underlines the theoretical problem by arguing against any obvious alternative analyses. An analysis is proposed where it is the tail (rather than the head) of the chain of coreferent elements that is identified, suggesting that this is another place where parameterization is needed.

1. Introduction

One part of Binding Theory deals with simple reflexive constructions, such as (1) (where coindexing indicates coreference).

(1) John$_i$ sees himself$_i$.

If we view the reflexive pronoun *himself* as consisting of the noun *self* and its possessor, and then put the English words into the VSO word order of Zapotec, we have:

(2) Sees John$_i$ self-his$_i$.

The construction in (2) would fit well within the principles of Binding Theory, which in simplified terms require an anaphor or reflexive to have a local antecedent which is higher in the tree than it is. However, the Zapotec construction that I consider in this paper has the basic form in (3), where the subject is null and it is the possessor of the object which is fully specified. (Note that Zapotecan languages are not *pro*-drop languages. This is one of very few cases where the subject may be null.)

(3) Sees $\emptyset_i$ self John$_i$.

This unique construction is not limited to *self*-anaphors[1] but also applies to regular objects where the subject of the sentence is also the possessor of the object, as in (4)–(5).

(4) Reads $\emptyset_i$ book his$_i$.
(5) Gave $\emptyset_i$ broom the woman$_i$'s.

The data for this challenging construction is presented first, followed by basic theoretical background on Binding Theory and on the phrase structure of VSO languages in section 3. Section 4 underscores the theoretically problematic nature of this construction by arguing against several plausible analyses. I then suggest that parameterization of which element

*Much of the material presented here appeared in Black (1994:Chaps. 5, 13). I gratefully acknowledge the help of my dissertation adviser, Sandra Chung. The presentation here has also benefitted from comments by Albert Bickford, Andy Black, Steve Marlett, and Chuck Speck.

[1]The term is taken from Reinhart & Reuland (1993) to describe all reflexive elements which are headed by the noun meaning 'self'.

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must carry the features in a coreference relationship is the simplest way to extend the theory to cover the Zapotec data.

2. Data

This backwards binding construction is present in varying degrees throughout the Zapotecan languages spoken in Oaxaca, Mexico. Examples from three of these languages will be used in this paper. Yatzachi Zapotec, a member of the Northern group of languages, uses this construction for all its anaphoric uses: true reflexives, reciprocals, and the reflexives of possession illustrated above in (4)–(5). It is this last type, the reflexive of possession, which is most prevalent throughout the rest of the Zapotecan language family.[2] Examples from Quiegolani Zapotec, one of the Southern group of languages, will also be presented in this section and in section 4. Data from Juarez Zapotec will be used in some of the argumentation in section 4.2.

2.1 Yatzachi Zapotec

There are three anaphoric constructions in Yatzachi Zapotec, each having the same unique structural shape. Butler (1976) calls these constructions the true reflexive, the reciprocal, and the reflexive of possession.

The true reflexive construction is based on an intrinsically possessed noun *k^{w}iN* 'self of'.[3] This construction involves what Butler describes as a portmanteau realization of the subject and the possessor of *k^{w}iN*, where the subject position is empty. The possessor of the noun *k^{w}iN* may be a clitic pronoun, as in (6a–c), or a full noun phrase following the noun, as shown in (6d).[4]

(6) a. B-čog k^{w}iN-a?.
C-cut self.of-1Sg
I cut myself.

b. B-čeč k^{w}iN-bo?.
C-hit self.of-3F
He hit himself.

c. J̌-le?i k^{w}iN-to?.
H-see self.of-1ExPl
We see ourselves.

d. B-e-χot k^{w}iN be?e-na?.
C-Rep-kill self.of person-that
That person killed himself (suicide).

[2]Some Zapotecan languages, such as Isthmus Zapotec, have reflexive pronouns that act just as expected by the VSO parallel to English. Even there, the reflexive of possession construction is used when the object is a body part noun. As pointed out by Chuck Speck (p.c.), however, the cases where the object is a body part noun may be better analyzed as incorporation constructions. See section 4.2.

[3]This form is also used in six other Northern group languages.

[4]All the data presented in this section are taken from Butler (1976) or obtained from her personally. The symbols *R^{w}* and *R* indicate uvular fricatives. *N* is an unspecified nasal which assimilates to the point of articulation of a following consonant. The following abbreviations are used in the morpheme glosses: C=Completive aspect; H=Habitual aspect; P=Potential aspect; 1IPl=first person plural inclusive pronoun; 1ExPl=first person plural exclusive pronoun; 1Sg=first person singular pronoun; 2Pl=second person plural pronoun; 3F=third person familiar pronoun; 3RS=third person respectful subject pronoun; Rep=repetitive; SPl=subject plural marker.

The reciprocal construction in Yatzachi Zapotec also contains a portmanteau realization of the subject and the possessor of an item, in this case the possessed noun *lR^{w}ežR* 'fellow of'. Example (7) shows this reciprocal construction, where the possessor must be plural.

(7) a. J̌-e-χaləʔ g-akəlen lR^{w}ežR-jo.
H-Rep-owe P-help fellow.of-1IPl
We must help one another.

b. J̌-geʔi-neʔ nadaʔ naʔ bito j-ne lR^{w}ežR-toʔ.
H-hate-3RS 1Sg and not H-speak fellow.of-1ExPl
She hates me and we do not speak to one another.

c. Biǯčenʔ j-bažəʔ lR^{w}ežR-le.
why H-hit fellow.of-2Pl
Why do you hit one another?

d. Ba-j-əsəʔə-leʔi lR^{w}ežR bžinʔ kaʔ.
already-H-see-SPl fellow.of mule those
Those mules have already seen one another.

The third anaphoric construction is the reflexive of possession. Here any possessed noun may occur with the portmanteau realization of the subject and the possessor. The examples in (8) show the normal nonreflexive construction, where the subject and possessor of the object are expressed separately.[5] This contrasts with the examples in (9) (compare especially (8a) with (9a) and (8b) with (9b)) showing this reflexive of possession construction.[6]

(8) a. Čin-aʔ χičR-boʔ.
P:comb-1Sg head-3F
I will comb his hair.

b. J̌-lab-oʔ libř če-boʔ.
H-read-3F book of-3F
He$_i$ is reading his$_j$ book.

(9) a. Čin χičR-aʔ.
P:comb head-1Sg
I will comb my hair.

b. J̌-lab libř če-boʔ.
H-read book of-3F
He$_i$ is reading his$_i$ book.

c. Ba-j-g^{w}ia liš Bed-ənʔ.
already-H-look.at paper Peter-the
Peter$_i$ is already looking at his$_i$ paper.

[5](8b) could be used in a case where the subject and the possessor of the object are coindexed, since the null subject is not absolutely required for coindexation. What is true is that when there is a null subject, there is forced coreference between the subject and the possessor of the object. Therefore, to avoid ambiguity and in conformity with Gricean principles (Grice 1975), (8b) would normally be used only for cases of disjoint reference, since (9b) clearly expresses forced coreference.

[6]Nouns which are not of the class that is normally possessed in Yatzachi Zapotec require *če* or *či* 'of' before the possessor, as seen in (9b,d–e).

d. Ž-Rə-nab kařt či-aʔ kořeo-nʔ.
P-go-ask letter of-1Sg post.office-the
I will go ask for my letters at the post office.

e. Bito b-nežR^{w} bg^{w}ex če noʔol-ənʔ.
not C-give broom of woman-the
The woman$_i$ did not lend her$_i$ broom.

2.2 Quiegolani Zapotec

Quiegolani Zapotec and other Southern Zapotecan languages do not have forms corresponding to reflexive or reciprocal pronouns (Piper 1993).[7] Quiegolani Zapotec does have a construction just like the reflexive of possession construction in Yatzachi Zapotec, however, in which the subject may be null if it is coindexed with the possessor of the object. Some examples are given in (10), where an underscore indicates the position of the missing subject.[8]

(10) a. R-dxiin-t __ x-ten men. Rancho 9a
H-arrive-Neg Pos-ranch 3
They$_i$ didn't arrive at their$_i$ ranch.

b. R-e noo: R-laan noo ts-a noo, per che-bel Hortens 17
H-say 1Ex H-want 1Ex P-go 1Ex but when-if
I said, "I want to go, but only if
y-na de g-weey __ x-pëëd noo.
P-say 2 P-take Pos-child 1Ex
you say that I can take my daughter."

---

[7] In fact, there is no morphological distinction at all between pronouns and reflexives. The regular pronouns are used in both subject and object position. We can see in the Quiegolani Zapotec examples that in the case of first or second person pronouns, the coindexing is clear and an anaphoric reading is given (i) (though singular versus plural is still a problem). In (ii) we see, however, that there is no way to distinguish coreference from noncoreference with third person pronouns.

(i) R-wii noo noo.
H-see 1Ex 1Ex
I see myself. or *We see ourselves.*

(ii) R-wii men men.
H-see 3 3
She/he/they see(s) herself/himself/themselves/her/him/them.

Because of the ambiguity caused by this lack of distinction between anaphors and pronominals, speakers of these languages prefer to use proper names or common nouns rather than third person pronouns. Regnier (1989b) reports that another strategy for a clear reflexive interpretation is to use the morpheme *-ke* (usually a verbal suffix), meaning 'association', attached to the focus marker with the subject focused, as in (iii).

(iii) Laa-ke noo r-wii.
FM-Assoc 1Ex H-see
I see myself.

This construction apparently alters the argument structure of the verb to take only one argument, as in 'I self-see'. In addition, some idiomatic expressions have also been developed to indicate an anaphoric usage.

[8] The examples in this section are taken from Regnier (1989a), with the text name and line number given at the right. Other Quiegolani Zapotec examples in the paper which do not have a text reference come either from Regnier (1989b) or from my own field work with QZ speaker Martín Hernández Antonio in 1991 and 1993. Additional abbreviations used: Assoc=associative action; F=Future aspect; FM=focus marker; Neg=negation marker; Pos=Prefix used on alienably possessed nouns in possessive constructions; Pr=Progressive aspect; S=Stative aspect; Wh=nominal suffix indicating [+wh] feature; 1Ex=first person exclusive pronoun; 2=second person pronoun; 3=third person human pronoun; 3A=third person animal pronoun.

c. Dxe w-dxiin __ x-ten men — Menmaac 3
already C-arrive Pos-ranch 3
When he$_i$ arrived at his$_i$ ranch,
w-kaa __ x-kix men chu yag.
C-put Pos-bag 3 belly tree
he$_i$ put his$_i$ bag on a tree.

d. S-ya __ ru x-yuu mër gol. — Martrist 42
Pr-go mouth Pos-house pigeon male
The male pigeon$_i$ went to his$_i$ house.

Example (10d) verifies that the possessor may be a full nominal phrase (*mër gol* 'male pigeon'), not just a pronoun, and that the possessor of the object of a preposition (*ru* 'mouth')[9] counts as well for this construction.

3. Theoretical Background

The analysis and argumentation are given in terms of Government and Binding Theory (GB) developed in Chomsky (1981, 1982, 1986). The background information on Binding Theory and phrase structure (especially relating to VSO languages) necessary to understand the analysis is covered in the following sections.

3.1 Binding Theory

Binding Theory seeks to explain the distribution of pronouns, reflexives, and full nominal phrases seen in (11) (plus more complex examples, of course).[10]

(11) a. John$_i$ likes himself$_i$.
b. *Himself$_i$ likes John$_i$.
c. John$_i$ likes him$_{j/*i}$.
d. John$_i$ likes John$_{j/*i}$.
e. He$_{j/*i}$ likes John$_i$.

Reinhart (1981) found that the key relationship necessary in binding constructions is c-command, which formally expresses the notion of 'higher in the tree than'. Definitions for c-command and for binding are given in (12) and (13), respectively, where α and β stand for particular categories.

(12) α C-COMMANDS β iff
a. α does not dominate β, and
b. the first branching node that dominates α also dominates β.

[9]Body part nouns are used as prepositions in Zapotec. Since possessors follow the noun in Zapotec, the phrase beginning with *ru* could alternatively be analyzed structurally as a possessed noun construction with a stacked possessor, meaning 'the male pigeon's house's mouth (or door)'. Under the possessed noun analysis (10d) would then be viewed as having the same Verb-Object-Possessor structure as the other examples. I see two problems with the possessed noun analysis: a) when the body part term meaning 'mouth' is used as a noun it is written as *ruu* because it is pronounced with a laryngealized vowel which can bear stress, in contrast with the shortened form used here; b) the interpretation of (10d) which parallels the other examples of this construction would incorrectly yield 'the male pigeon's house went to its door'.

[10]Subscripts indicate indexing or reference and * indicates ungrammaticality for the given indexing.

(13) α BINDS β iff

a. α c-commands β, and
b. α and β are coindexed.

A further distinction is made between A-binding and $\bar{A}$-binding by requiring the binder α to be in an argument position (=subject or object position) for A-binding.

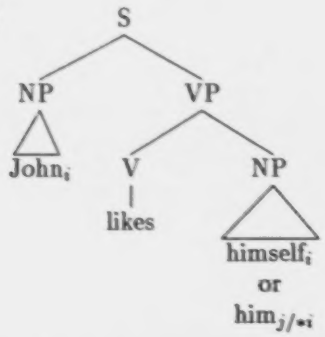
Three principles have been set forth to account for the distinct distributions of anaphors, pronouns, and other nominal phrases. These are given in simplified form in (14), where we can assume that 'locally' is equivalent to 'within the same smallest clause'.

(14) Principles of Binding Theory

A. Anaphors (e.g. reflexives and reciprocals) must be locally A-bound.
B. Pronouns must not be locally A-bound.
C. Nonpronominals must not be A-bound.

These definitions and principles explain the distribution seen above in (11). A simple tree is given in (15) illustrating (11a & c).

(15)



The NP *John*$_i$ (= α) c-commands the NP *himself*$_i$ (= β) because it does not dominate β, and the first branching node above α, which is S, dominates β. This NP *John*$_i$ also binds β because it c-commands β and they are coindexed. Furthermore, α A-binds β since α is in subject position, which is an argument position. Therefore, by Principle A, the reflexive pronoun is licensed or legal because it is locally A-bound. By the same reasoning, the pronoun *him* must not be coindexed with *John*, since pronouns are subject to Principle B and must not be locally A-bound. The rest of the examples in (11) follow similarly: *himself* cannot be in subject position (11b) because it is not locally A-bound there; *John* is subject to Principle C so it cannot be coreferent with anything in argument position that c-commands it.

In addition to overt nominals, GB applies these Principles of Binding Theory to the various types of null elements which can occupy argument positions but must be identified (get their reference) from some other element in the clause. This identification requirement is normally met in one of two ways: (a) null pronouns in *pro*-drop languages are licensed by the agreement markers on the verb in a specifier-head relationship, or (b) the null element is bound by and coreferent with its antecedent. Any set of coindexed elements where one c-commands the other (and thus the former binds the latter) is said to form a chain. The top

element in the chain is said to be the head and the bottom element is the tail. Null elements are usually the tail of the chain and the head of the chain normally carries the identifying features.

In analyzing the Zapotec construction, we will need to determine which of the Principles of Binding Theory licenses the null subject and the possessor of the object, as well as how the null subject is identified.

3.2 VSO Phrase Structure

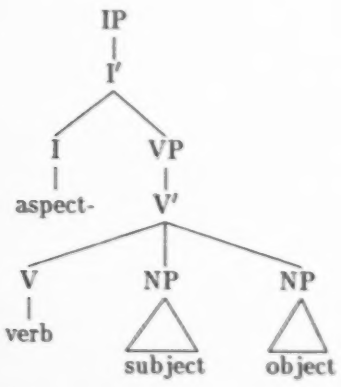
Since c-command and binding are defined in structural terms, the analysis of the Zapotec construction depends upon the phrase structure. GB phrase structure is based upon X-Bar Theory, which says all phrases are projected from the two basic rules in (16a), plus the rules allowing conjunction (16b) and adjunction (16c):

(16) a. XP $\longrightarrow$ Specifier X′
X′ $\longrightarrow$ X Complement(s)
b. Z $\longrightarrow$ Z Conj Z
c. Z $\longrightarrow$ Z Y or Y Z

The sentence is reanalyzed as an IP, headed by the inflection, and the clause is a CP headed by the complementizer. The rules in (16a) are given for SVO languages like English, but simple rearrangement of the order of elements on the right side will produce the correct orders for SOV, VOS, and OVS languages.

The basic word order in Zapotec is Verb-Subject-Object (VSO). This order does not fall out automatically by a reordering of the elements in the rules. For many years it was simply assumed that VSO languages had a flat structure. A form of the flat structure which follows X-Bar Theory as much as possible is shown in (17).[11]

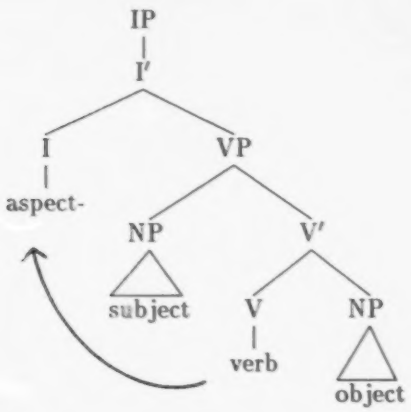
(17) Flat Structure



[11]This structure was proposed for Jacaltec by Woolford (1991). It is also basically equivalent to the S-structure obtained under the Subject Adjunction proposal suggested by Choe (1986) for Berber and further developed by Chung (1990) for Chamorro.

Another configuration more in keeping with GB phrase structures proposed for other word orders calls for an underlying SVO structure with the verb then moving up to I, as shown in (18).[12]

(18) Verb Movement



I argue in Black (1994) that the Verb Movement account is correct for Quiegolani Zapotec.[13] We will see, however, that the binding construction under consideration is problematic for both phrase structure proposals.

4. Analysis of the Zapotec Binding Construction

In 'normal' binding constructions, the referentially independent element precedes and c-commands the referentially dependent element, making the term 'antecedent' meaningful. In the Zapotec constructions under consideration here, however, it is the preceding and c-commanding element, the subject, that is referentially dependent on the possessor of the object. This section clarifies the structural problem and explains why an incorporation analysis is not plausible for this data, and then outlines the proposed analysis.

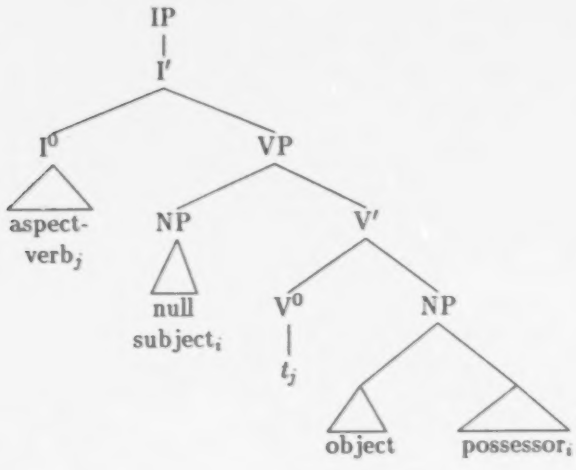
4.1 The Structural Problem

As verified in the S-structure trees in (19)–(20), there is no way under either the Verb Movement or the Flat Structure proposals to have a normal c-command relationship between the possessor of the object and the subject. In the Verb Movement account (19), the subject is in the specifier of VP, well above the possessor of the object.

[12]The Verb Movement account was proposed by McCloskey (1991) and Koopman & Sportiche (1991), among others.

[13]I assume this is true of all of the Zapotecan languages. Black (1993) shows that the Verb Movement proposal accounts nicely for the negation constructions in Mitla Zapotec and Isthmus Zapotec as well as in Quiegolani Zapotec.

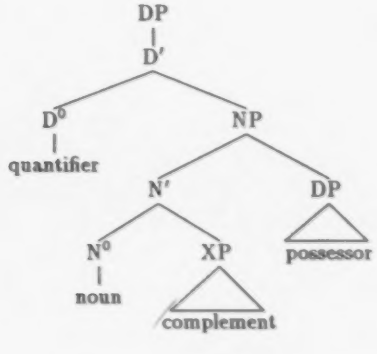
(19) Verb Movement



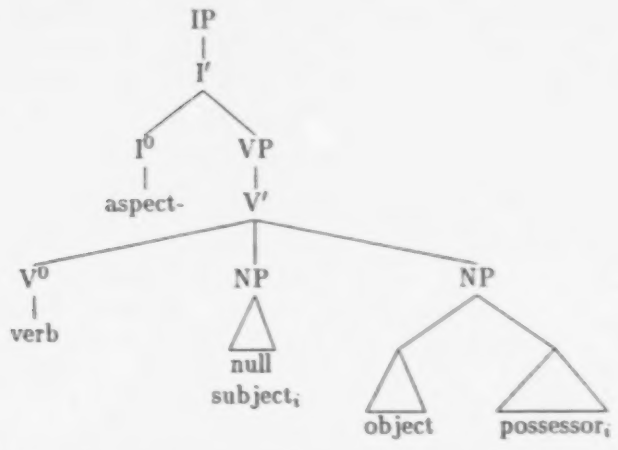
Even in the Flat Structure account (20), where the subject and the object mutually c-command each other, the possessor of the object is inside the object and cannot c-command up and out of it.[14]

[14]I show in Black (1994) that the nominal structure of Quiegolani Zapotec requires the DP Hypothesis (Abney 1987, Stowell 1989) where there are two complete levels and the possessor is in the specifier of the NP, as shown in (i). This further clarifies the impossibility of the possessor of the object c-commanding the null subject, even given the Flat Structure.

(i)



(20) Flat Structure



We need to verify that these problematic constructions really consist of a verb followed by a null subject and then an object with its possessor and are not instead simply examples of VOS order. All of the available evidence points to the conclusion that the final element is indeed the possessor and not the (displaced) subject.

First, the object and its possessor can be focused together, as in the Yatzachi Zapotec example (21) (compare to (7d)), indicating that they form a single constituent. A coindexed pronoun must overtly mark the subject on the verb when this focusing occurs, however, showing that the null subject is only licensed very locally.

(21) Liš Bed-ən7 ba-j-g^{w}ia-bo7.
paper Peter-the already-H-look.at-3F
Peter$_i$'s paper, he$_i$ is already looking at.

Further, strict VSO order is required for the correct interpretation of grammatical functions within the clause since there is no overt case marking. VOS word order, which could be obtained by rightward movement of the subject (or by the optionality of Subject Adjunction movement under Chung's (1990) proposal), is otherwise unattested in Zapotec.

4.2 The Incorporation Account

Another way to obtain surface VOS word order from the underlying VSO order would be to incorporate the object into the verb. Woolford (1991) notes that Jacaltec avoids the problem of the reflexive c-commanding its antecedent in the Flat Structure by incorporating the reflexive into the verb instead of placing it in object position, as shown in (22) (taken from Craig 1977:148). *Sba* is argued to have incorporated into the verb, since VOS order is never allowed in Jacaltec either.[15]

(22) [Xil sba] naj pel.
saw self Cl Peter
Peter saw himself.

One might wonder, then, if an incorporation analysis would work for the Zapotec constructions, which have the same superficial word order. Incorporation does occur in Zapotecan

[15] Cl stands for noun class marker.

languages, especially when the object is a body part noun, as will be exemplified in (26). Either incorporation or lexical compounding is undoubtedly the best analysis of the many compounds using 'liver' attested throughout the language family, such the Quiegolani Zapotec examples in (23).

(23) a. Lex n-uu lextoo man: Txu maa-zh maa. Mansnake 3
later S-be liver 3 who 3A-Wh 3A
Later he wondered, "What animal was it?"

b. Z-a lextoo Susan g-an pa gos w-dee men lo Susan
Pr-go liver Susan P-know what thing C-give 3 face Susan
Susan remembers what things she received
chene w-zaa Susan iz.
when C-complete Susan year
when she had her birthday.

Unfortunately, though initially attractive, an incorporation analysis does not account for all the facts in these Zapotec binding constructions.

First, the object is a noun requiring a possessor. The nominal phrase or pronoun following this object serves as the possessor, not as the subject (though it is coreferent with the subject). This is confirmed in Juarez Zapotec, where some of the subject and possessor pronouns differ. Nellis & Nellis (1983:379–380) note that in these constructions for both reflexive and reciprocal uses, it is always the possessive pronoun form that appears, rather than the subject form of the pronoun. Example (24) illustrates this: the possessive pronoun is used in the simple grammatical example (24a), but replacing the possessive pronoun with a subject pronoun yields the ungrammatical example (24b).

(24) a. quî-nɨ̨ʔɨ̨
wash-hand:3Pos
He$_i$ washed his$_i$ hands.

b. *quî-náʔ-ą̨
wash-hand-3Subj
(He$_i$ washed his$_i$ hands.)

Further, alienably possessed nouns require some special marking when they are possessed. Recall that in Yatzachi Zapotec, *če* 'of' is added before the possessor, verifying again that the overt nominal is the possessor in these constructions.

(25) Bito b-nežR^{w} bg^{w}ex če noʔol-ənʔ.
not C-give broom of woman-the
The woman$_i$ did not lend her$_i$ broom.

We can also argue syntactically against an incorporation analysis for these constructions. In a regular incorporation construction the object appears inside the negative marker in Quiegolani Zapotec, as shown in (26). Black (1993) shows that this accords with the Verb Movement proposal for the phrase structure, where the whole verbal complex, including the incorporated object, moves to I^0, across the subject[16] and then to Neg^0 (the head of a higher functional projection NegP).

[16] A subject is required in negative commands in Zapotec.

(26) G-ix-nii-t de lo pis. Bathroom 18
P-put-foot-Neg 2 face floor
Don't step on the floor.

In contrast to the order in (26), negation is marked *before* the object in a reflexive of possession construction, as shown in (27). The incorporation analysis is thus unlikely, since the object is not part of the verbal complex which undergoes head movement.

(27) a. R-dxiin-t __ x-ten men. Rancho 9
H-arrive-Neg Pos-ranch 3
They$_i$ didn't arrive at their$_i$ ranch.

b. W-tsalo-t __ x-mgyeey men, Rancho 43
C-meet-Neg Pos-man 3
She$_i$ didn't meet her$_i$ husband,
s-teb koo z-a x-mgyeey men.
F-one side Pr-go Pos-man 3
because he went the other way.

This argument is strengthened by the fact that the adverbials that may come at the end of the verb directly follow the negation marker in Quiegolani Zapotec (28). If these adverbials were present in the examples in (27), they would also come between the verb (after the negation marker) and the object, unlike the incorporation example in (26) where the verb and the incorporated object form a unit before the affixes are added.[17]

(28) G-oo-t-re-ke noo nis.
P-drink-Neg-More-Assoc 1Ex water
I will not drink more water either.

I therefore claim that incorporation is not a plausible account for all of the forms of this Zapotec binding construction, especially where the object is not a body part noun.

4.3 Proposed Analysis

Given that the final element is the possessor of the object and the subject is null, we are left with a need to redefine the anaphoric binding relationship for these particular constructions. To do this, the general requirements of anaphora constructions must be considered: locality, one element c-commanding and A-binding the other, licensing of each element by the Principles of Binding Theory, and the identification of the referentially dependent element.

This binding relationship allowing the null subject is very local, since it holds only within a single clause, thus meeting the first requirement of an anaphoric construction. Further, we have seen that although the possessor of the object does not c-command the null subject

[17] Chuck Speck (p.c.) reports that in Texmelucan Zapotec, where the construction is limited to only certain verbs and the object must be a body part noun, the adverbials can occur either directly after the verb stem (i) or between the object and its possessor (ii). (3M=third person masculine pronoun.)

(i) R-guuñ zi'l tooy.
H-scratch only head-3M

(ii) R-guuñ too zi'l yu.
H-scratch head only 3M
He just scratched his head.

Incorporation of the body part noun is clearly an option in Texmelucan Zapotec.

under either of the phrase structure proposals for VSO word order, the null subject does c-command the possessor of the object. Since these two elements are also coindexed, an A-chain[18] is formed and the null subject A-binds the possessor of the object.

Which of the Principles of Binding Theory apply is a harder question. Looked at outside of this construction, the possessor of the object is either a pronoun or a full nominal phrase, thus falling under either Principle B or C, both of which prohibit local A-binding.[19] Conversely, we would expect the null subject to be a type of null anaphor which must itself be locally A-bound, rather than locally A-binding an overtly identified nominal.

The key difference between this Zapotec construction and the more common reflexive construction is simply that the anaphor and the antecedent have switched places. (29) illustrates the affect of this one change: if it was applied to English we would expect (29a) to be grammatical but not (29b or c).

(29) a. Himself$_i$ sees John$_i$.
b. *Himself$_i$ said that John$_i$ saw Susan.
c. *Himself$_i$ said that Susan saw John$_i$.

Clearly, a local A-chain is still required in these Zapotec constructions, but it is the tail rather than the head of the chain that is identified. Judith Aissen (1992 class lectures) reported a similar identification requirement in Tzotzil, where the tail of an A-chain which is first or second person must be identified with respect to number, while the head would not be so marked.

I propose that the Principles of Binding Theory be reworded in terms of A-chains instead of A-binding to allow parameterization of whether it is the head or the tail of the A-chain that is the referentially dependent element. This dependent element would then be identified through the A-chain by the referentially independent element. The revised principles (still in simplified form) would read as in (30), where {head/tail} indicates a parameter that must be set.

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[18] An A-chain simply means a chain of coindexed elements where the head of the chain is in an argument position. In contrast, an Ā-chain or a *wh*-chain has the head of the chain in a non-argument position (either a specifier position or adjoined).

[19] Southern Zapotecan languages freely allow repetition (and A-binding) of both pronominals and nominal phrases. The Quiegolani Zapotec texts (Regnier 1989a) are full of examples like those in (ii)-(iii).

(i) R-wii noo noo.
H-see 1Ex 1Ex
I see myself. or *We see ourselves.*

(ii) R-e Mblid lo xsaap Mblid: Bru 14
H-say Mary face daughter Mary
Mary said to her daughter:

(iii) W-chug mëëk duu, porke w-laan mëëk nis. Menmaac 35
C-cut dog rope because C-want dog water
The dog cut the rope, because he was thirsty.

This is probably due to the lack of reflexive elements in these languages, because such repetition is not allowed in other parts of the Zapotecan language family which have reflexive pronouns. See Piper (1993) and Black (1994:Chap. 5) for more examples. Lasnik (1989) argues for parameterization of Principle C based upon similar examples in Thai and Vietnamese.

(30) Principles of Binding Theory

A. Anaphors (e.g. reflexives and reciprocals) must be the {head/tail} of a local A-chain.
B. Pronouns must not be the {head/tail} of a local A-chain.
C. Nonpronominals must not be the {head/tail} of an A-chain.

Setting the parameter to 'tail' in each case would yield the equivalent of Chomsky's principles. The null subject in these Zapotec constructions would require that the parameter in Principle A be set to 'head'. Looking at this construction only, Principles B and C would also choose the 'head' option. More research is needed to determine what parameter settings would be appropriate to account for the full distribution of nominals within each particular Zapotec language, if this is indeed possible.[20]

5. Conclusion

The Zapotec binding constructions have been shown to be truly upsidedown or backwards from what has been commonly described in other languages. The overt word or phrase really is the possessor of the object and not simply a displaced subject. The null subject is not licensed by *pro*-drop, since the subject must be present in all other constructions. Further, an incorporation analysis was argued to be implausible for the specific binding construction being considered. The coreferential elements still form a local A-chain, however, thus conforming to the requirements of Binding Theory if we parameterize the identification feature to allow the tail of the chain to carry the indentifying information and the head to be the referentially dependent anaphor in these special constructions.

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[20] Another, more abstract possibility (but which does not require parameterization of the Principles of Binding Theory) is that the null subject is an expletive-type element in the A-chain which could locally c-command the overt possessor and take its reference from the possessor. This would parallel the analysis of the scope-markers in *wh*-chains in the partial *wh*-movement allowed in German and Romani analyzed by McDaniel (1989) (see also Black 1994:Appendix), where the scope marker fills the normal position for question words and the *wh*-phrase is allowed to remain in the specifier position of a lower, non-interrogative clause. If this analysis proved to be viable, it would provide an interesting point of connection between A-chains and Ā-chains.

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